SYMBOL TIMING FOR MIMO OFDM
AND OTHER WIRELESS COMMUNICATION SYSTEMS

ABSTRACT OF THE DISCLOSURE

Symbol timing for a wireless communication system, such as a multiple-input multiple-output (MIMO) orthogonal frequency division multiplexing (OFDM) wireless LAN system, is determined by summing the powers for an appropriate set of channel impulse responses, integrating this power summation over an appropriate window (e.g., equivalent to the guard interval), and identifying the time at which the maximum integration occurs. Depending on the implementation, symbol timing can be determined for each receiver branch individually or for all receiver branches jointly. In either case, the determined symbol timing(s) can minimize the amount of inter-symbol and inter-channel interferences that are invoked in the system.